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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,748	12/14/2001	Kiyoshi Sato	9281-4258	1456

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EXAMINER

MILLER, BRIAN E

ART UNIT PAPER NUMBER

2652

DATE MAILED: 04/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/017,748

Applicant(s)

SATO ET AL.

Examiner

Brian E. Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-25 is/are pending in the application.
- 4a) Of the above claim(s) 7-12, 14, 15 and 18-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-12 and 14-25 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4 & 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Claims 1-12, 14-25 are pending.

Election/Restriction

1. Applicant's election without traverse of invention I, i.e., claims 1-6, 16-17, in Paper No. 7 is acknowledged. Claims 7-12, 14-15, 18-25 have this been withdrawn from further consideration.

Claim Objections

2. Claims 2-3 are objected to because of the following informalities: (a) in both claims, the language "the width in the track width direction of the gap layer is smaller than or equal to the width in the track width direction of the upper pole layer" is duplication of language in claim 1 and should be omitted. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-6, 16-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. (a) Claim 1, line 3 (and similarly for claim 6) the language, "optionally with a lower pole layer therebetween" is indefinite, because it is not readily apparent whether this layer is present or not, so therefore, the metes and bounds of the claim cannot be readily ascertained;

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(b) claim 1 (and similarly for claim 16) line 9, the language "toward the back" is vague and lacks proper antecedent basis; (c) claim 6, the language "has a width of 0 to 4 um" has a range that would include zero, which would render the claim indefinite.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 6, 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by applicant's admitted prior art (AAPA), FIGs. 24-32. The AAPA discloses a thin film magnetic head, as shown in at least FIGs. 24-25, including: a lower core layer 22 having a lower pole layer 25 therebetween; a gap layer 26 formed on the lower core layer; an upper pole layer 27 formed on the gap layer; an upper core layer 32 formed on the upper pole layer; a Gd-defining layer 23 for defining the depth in the height direction of the joint surface between the gap layer and the upper pole layer; the Gd-defining layer being formed on the lower core layer "toward the back" in the height direction from a surface facing a recording medium; wherein the width in the track width direction of the gap layer is smaller than or equal to the width in the track width direction of the upper pole layer when viewed from the surface facing the medium (see FIG. 24); (as per claims 2 & 3) wherein the width in the track width direction of the gap layer is smaller than or equal to the width in the track width direction of the upper pole layer and the width in the track width direction of the lower pole layer when viewed from the surface facing the medium; (as per

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claim 4) wherein the minimum width in the track width direction of the gap layer is 0.4 um or less when viewed from the surface facing the medium (see pg. 6, lines 14-20 which discloses the AAPA at least achieving this width dimension); (as per claim 6) wherein the Gd-defining layer extends from both sides of a pole section comprising a gap layer (see FIG. 24).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA. For a description of the AAPA, see the previous rejection. The AAPA is silent as to the thickness of the lower pole layer and the width of the extending sections of the Gd-defining layer.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the above thickness and width of the above respective layer(s). The motivation would have been: lacking any unobvious or unexpected results, the dimensional limitations would have resulted through routine engineering optimization and experimentation, due to the particular design specifications of the head.

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Additionally, the law is replete with cases in which the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

It furthermore has been held in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range(s); see *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; see *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

Conclusion

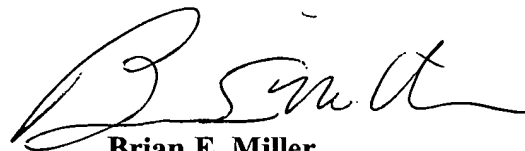
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure including US Patent to Sasaki (6,430,003), which is cited to show a thin film head with a Gd-defining layer; and Chang et al (6,134,080) discloses 3-8 micron (col. 7, lines 47-48) width of the Gd-defining layer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian E. Miller whose telephone number is (703) 308-2850. The examiner can normally be reached on M-TH 7:15am-4:45pm (and every other friday).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brian E. Miller
Primary Examiner
Art Unit 2652

Bem
April 26, 2004